

Board Administration and Regulatory Coordination Unit

Division 3. Air Resources Board

Chapter 1. Air Resources Board

Subchapter 1.5. Air Basins and Air Quality Standards

Article 3. Criteria for Determining Area Designations

§ 70306. Annual Review of Designations.

(a) The executive officer will conduct annual reviews of all designations and will propose revisions to the designations as necessary to the state board. The executive officer will complete the annual reviews by November 15.

(b) Any request for a change in a designation and any submittal of information for purposes of the executive officer's consideration in the annual review of a designation shall be provided in writing to the executive officer no later than May 1 of each year.

NOTE: Authority cited: Sections 39600, 39601, 39607 and 39608, Health and Safety Code. Reference: Sections 39607 and 39608, Health and Safety Code.

REFERENCE

Appendix 1

Criteria for Determining Data Representativeness

This Appendix describes the criteria to be used in determining data representativeness for the purpose of designating areas as described in this Article. Representativeness, as used here, is only related to whether or not the amount of data reported is sufficiently complete to characterize reliably air quality during the respective time period. No other kind of representativeness is implied. The criteria for representativeness are summarized in the accompanying table and discussed further, below.

Air quality statistics are usually computed from short term observed values. For example, an annual arithmetic mean is computed from all available hourly samples. If all the short term values for the statistical time period are available, the calculated statistic is representative. However, because all the short term values for a given period often are not available, a minimum number of observations are needed to provide reasonable assurance that the calculated value is a reliable estimate. In general, statistics are considered representative if 75 percent of the possible short term values are included and are distributed throughout the entire statistical time period.

To ensure that seasonal variations are accounted for, representative annual statistics are required to have four representative calendar quarters of data. Because three representative months are required for each calendar quarter, the lack of representativeness of the monthly mean concentrations precludes a reliable estimate of a representative calendar quarter, which in turn precludes the representativeness of an annual statistic. Each level of criteria--hour, day, month, quarter, and year--must be met in order to make a representative annual statistic.

For observations made at less than 24-hour intervals, for example, hourly samples, representativeness depends on whether all the individual values are to be used or only a single daily value is to be used. In general, for representative statistics computed from all of the individual values, such as the mean of all hours, 75 percent of the values in the respective period are required. For representative statistics computed from daily values, such as the monthly mean of daily maximum hours, data from 75 percent of the days in the month are required and the data within those days must meet the relevant representativeness criteria.

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Criteria for Representativeness of Air
Quality Measurements and Statistics

<i>Representative Calendar Statistic</i>	<i>Sampling Time Period</i>	<i>Basis of Statistic Or Requirement</i>	<i>Number of Representative Periods Required</i>
Year	Any		4 representative calendar quarters
Quarter	24-hour	Based on a daily sample	3 representative months
	< 24-hours	Based on a daily statistic; or	69 or more representative calendar days
		Based on hourly samples	1,643 or more hours
Month	24-hour	Based on daily sample	4 or more 24-hour samples
	< 24-hours	Based on a daily statistic; or	23 or more representative calendar days
		Based on all hourly samples; or	548 or more hours
		Based on all 2-hour samples; or	274 or more 2-hour samples
		Based on all 3-hour samples	183 or more 3-hour samples
Day	1-hour		5 or more hours in each 1/2 day (hours 0 thru 7, 8 thru 15, 16 thru 23), & missing no more than 2 consecutive hourly samples
	2-hour	Based on all 2-hour samples	9 or more samples
	3-hour	Based on 3-hour samples	6 or more samples
	24-hour	Based on daily sample	22 but not more than 26 hours of sampling
Mean of N Hour Period	N	Number of Samples Needed	
	24	18 or more hourly samples	
	5	6 or more hourly samples	
	6	5 or more hourly samples	
	4	3 hourly samples	
	3	3 hourly samples	
	2	2 hourly samples	
	1	30 minutes or more of sampling	

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Appendix 2

Air Resources Board Procedure for Reviewing Air Quality Data Possibly Affected by a Highly Irregular or Infrequent Event

This Appendix describes the procedures that the Air Resources Board will use for reviewing air quality data possibly affected by a highly irregular or infrequent event with regard to the state ambient air quality standards. All decisions regarding the identification of data as being affected by a highly irregular or infrequent event will be made by the executive officer.

The executive officer will review air quality data for possible identification as affected by a highly irregular or infrequent event if the data are the only exceedances of an air quality standard in the area or if such identification would otherwise affect the designation of the area.

Three types of highly irregular or infrequent events may be identified:

1. Extreme Concentration Event
2. Exceptional Event
3. Unusual Concentration Event.

Extreme Concentration Events

An extreme concentration event is an event beyond reasonable regulatory control which causes an exceedance of a state standard. An extreme concentration event is based on a statistical procedure and may not always be linked to a specific identifiable cause. The causes of an extreme concentration event include but are not limited to unusual meteorology.

The steps for identifying an extreme concentration event are:

1. A district (or the executive officer) identifies questionable data.
2. In evaluating a possible extreme concentration event, the executive officer will use the data for the site at which the event is suspected to determine a limit for concentrations expected to recur no more frequently than once in one year. The limit will be determined using the "exponential tail method" described in Procedure for Computing the Values Used in Identifying Extreme Concentration Events (August 1998), which is incorporated by reference herein. Using conventional rounding procedures, the limit will be consistent with the level of precision in which the standard is expressed. If the possible extreme concentration exceeds the concentration expected to recur no more frequently than once in one year, the executive officer will consult with the district in identifying the data as affected by an extreme concentration event.
3. When an extreme concentration event is identified, the executive officer will review other information, including but not limited to meteorological data, to determine whether air quality data for other sites in the area were affected by the extreme concentration event.

Exceptional Events

An exceptional event is an event beyond reasonable regulatory control which causes an exceedance of a state standard. An exceptional event must be linked to a specific cause such as an act of nature or unusual human activity. As guidance to the states for determining exceptional events, the federal Environmental Protection Agency (EPA) has published Guideline on the Identification and Use of Air Quality Data Affected by Exceptional Events, (EPA-450/4-86-007), July 1986 (the EPA Guideline). The EPA Guideline provides overall criteria for determining whether an event is exceptional with regard to the national standards. The executive officer will use the EPA Guideline as a general basis for reviewing ambient data, but will not be bound by the specific definitions in the EPA Guideline for the various types of exceptional events because those definitions are made on a national basis. In addition, since what may be exceptional in one part of the state may be common in another, each possible event will be evaluated on a case-by-case basis.

The steps for identifying an exceptional event are:

1. A district (or the executive officer) identifies questionable data.
2. If a known exceptional event has occurred, the district gathers relevant data to document the occurrence.

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3. If an exceptional event is only suspected, the district investigates available data for the possible event.
4. The district submits to the executive officer a request for identifying the data as affected by an exceptional event and also provides supporting documentation.
5. If the executive officer concurs with the district, he/she will identify the data as affected by an exceptional event.
6. If the district's request for identifying data as affected by an exceptional event cannot be supported, the district will be notified of the reasons. The executive officer will consider any additional data to support the request, but in the absence of any new evidence, will disapprove the request.

Unusual Concentration Events

An unusual concentration event is an event which causes an anomalous exceedance of a state standard and which does not qualify as an extreme concentration event or an exceptional event. An exceedance affected by an unusual concentration event may be identified only for an area designated as attainment or unclassified at the time of the exceedance.

The steps for identifying an unusual concentration event are:

1. A district (or the executive officer) identifies a questionable exceedance(s).
2. If the exceedance(s) has not been identified as having been affected by an extreme concentration event or an exceptional event, and if the area was designated as attainment or unclassified at the time of the exceedance(s), the executive officer will review the exceedance(s) to determine whether it was affected by an unusual concentration event.
3. In evaluating a possible unusual concentration event, the executive officer will consider all relevant information, including but not limited to the amount and characteristics of air quality data, emission data, meteorological data, potential public health and welfare impacts, and any applicable state, district, and federal rules and regulations. To identify the exceedance(s) as affected by an unusual concentration event, the executive officer must find, based on the relevant information, that the impact of the exceedance(s) is limited to the local area, the exceedance(s) is not expected to recur, and that the data do not support a nonattainment designation.
4. If the exceedance(s) qualifies as possibly affected by an unusual concentration event, the executive officer will consult with the district in identifying the exceedance(s) as affected by an unusual concentration event.
5. An area may retain its attainment or unclassified designation based on the identification and exclusion of an exceedance(s) affected by an unusual concentration event for no more than three consecutive years. If the executive officer identifies an exceedance(s) affected by an unusual concentration event in the area in the fourth consecutive year, the area will be redesignated as nonattainment.

NOTE: Authority cited: Sections 39600, 39601, 39607 and 39608, Health and Safety Code. Reference: Sections 39607 and 39608, Health and Safety Code.

REFERENCE

Appendix 3 Criteria for Determining Data Completeness

This Appendix describes the criteria to be used in determining data completeness for the purpose of designating areas as attainment or nonattainment-transitional as described in this Article. The purpose of these data completeness criteria is to specify the minimum data deemed necessary to assure that sampling occurred at times when a violation is most likely to occur.

Complete Data

Data for a site will be complete if there are representative data (as determined in accordance with the Representativeness Criteria in Appendix 1) during the required hours (see below) of the day during the required months (see below) for the required years (see below).

Required Hours

The hours of potentially high concentration must be included. Unless a detailed evaluation determines different hours to be appropriate for a specific site, these hours are:

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<i>Pollutant</i>	<i>Hours (PST)</i>
Ozone	9 am-5 pm
Carbon Monoxide	3 pm-9 am (next day)
Nitrogen Dioxide	8 am-8 pm
Visibility Reducing Particles	10 am-6 pm
Other Pollutants	Throughout day

Required Months

The months of potentially high concentrations must be included. Unless a detailed evaluation determines different months to be appropriate for a specific site, these months are:

<i>Pollutant</i>	<i>Months</i>
Ozone	July-September
Carbon Monoxide	January, November-December
Nitrogen Dioxide	October-December
Sulfur Dioxide	September-December
Sulfates	January, June-December
Lead (Particulate)	January, November-December
Other Pollutants	January-December

Required Years

The number of years to be included is:

- (a) Three; or
- (b) Two, if during these years the maximum pollutant concentration (not including data found to be affected by a highly irregular or infrequent event under the procedure set forth in Appendix 2) is less than three-fourths the applicable state ambient air quality standard; or
- (c) One, if during this year the maximum pollutant concentration (not including data found to be affected by a highly irregular or infrequent event under the procedure set forth in Appendix 2) is less than one-half the applicable state ambient air quality standard.

REFERENCE

Appendix 4 Screening Procedure for Determining Attainment Designations for Areas with Incomplete Air Quality Data

This Appendix describes the screening procedure that will serve as the basis for making a pollutant-specific finding under Section 70304(c) that the state ambient air quality standard is being attained for areas with no or an incomplete air quality data record. The procedure is applicable only for nitrogen dioxide, sulfur dioxide, sulfates, and lead (particulate). For those areas with some air quality data for the prior three years, the screening procedure will be applied for a pollutant only if the maximum concentrations of that pollutant in the area did not exceed 75 percent of the state standard(s).

Pollutant	Screening Parameters	Screening Values
Nitrogen Dioxide	(a) Basin Population	1,000,000 people
	(b) Total Annual NO _x Emissions in Air Basin	40,000 tons/yr
	(c) Total Annual Point Source NO _x Emissions in County	2,100 tons/yr
Sulfur Dioxide	(a) Total Annual Point Source SO _x Emissions in County	1,700 tons/yr

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Sulfates	(b) Maximum Annual SO _x Emissions from Single Facility in County	900 tons/yr
	(a) Total Annual SO _x Emissions in Air Basin	19,000 tons/yr
	(b) Total Annual Point Source SO _x Emissions in County	1,700 tons/yr
	(c) Maximum Annual SO _x Emissions from Single Facility in County	900 tons/yr
Lead	(a) County Population	600,000 people
	(b) Maximum Annual Lead Emissions from Single Facility in County	0.5 tons/yr

For an area to which these values are applied, the local values of the applicable screening parameters will be compared to the respective screening values. The area will be presumed to be attainment if none of the applicable screening parameters for a pollutant exceed the associated screening values.

REFERENCE